CERTiTEK

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EMC TEST REPORT For FCC

Test Report No.	:	CTK02-F114
Date of Issue	:	August 23, 2002
Model/Type No:	:	P42SV
Kind of Product	:	PDP Monitor
Applicant	:	KORTEK Corporation
Applicant Address	:	1385-15 Juan-5Dong, Nam-Ku, Incheon, Korea
Manufacturer	:	KORTEK Corporation
Manufacturer Address	:	1385-15 Juan-5Dong, Nam-Ku, Incheon, Korea
Contact Person	:	Gyu-Dong, Kim
Telephone	:	+82-32-860-3004
Received Date	:	July 30, 2002
Test period	:	Start: August 16, 2002 End: August 16, 2002
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

The test results presented in this report relate only to the object tested.

CERTiTEK Standards Laboratory Co., Ltd. is accredited by Korea Laboratory Accreditation Scheme (KOLAS) which signed the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the above test item(s) and test method(s).

Tested by

Michael Jang
EMC Test Engineer
Date: August 23, 2002

Reviewed by

James Hong
EMC Technical Manager
Date: August 23, 2002

REPORT REVISION HISTORY

Date	Revision	Page No
Aug. 23, 2002	(CTK02-F114) Issued	All

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1.0 General Product Description

1.0.1 Tested Equipment

☒ Unless otherwise indicated, all tests were conducted on Model P42SV.

☐ Tests performed on Model _____ were considered to be representative of Model(s) _____.

1.0.2 Equipment Size, Mobility and Identification

Dimensions:	Display: 1038(W) by 89(D) by 638(H) ☒ mm ☐ in
Mobility:	☐ Hand-Held ☒ Table-top ☒ Floor-standing
Serial No.:	Not Applicable

1.0.3 Electrical Ratings

Input:	100-240V 50/60HZ
Output:	Not applicable

1.0.4 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage:	120V
Frequency:	60Hz

1.0.5 Clock & Other Frequencies Utilized

20MHz

1.1 Model Differences

Not applicable

1.2 Device Modifications

The following modifications were necessary for compliance:

Not applicable

1.3 EUT Configuration(s)

See Appendix A for individual test set-up configuration(s). The following peripheral devices and/or interface cables were connected during the measurement:

☒ Peripheral Devices

Device	Manufacturer	Model No.	Serial No.	FCC ID or DoC
PC	Hewlett Packard	DTPC-17	SG1703009	DOC
DVD Player	SAMSUNG	DVD-709	61KN400749	-
Keyboard	SAN HAWK TECIING CO., LTD	KB120	-	TCB (D840902)
PS/2 Mouse	PANWEST CHINA LIMITED	Cyber Beetle	PM1F184045737	DOC

☒ Cable Description

#	Description	Ferrited	Length (m)	Other Details
1	PC Power Cable, Unshielded	No	1.8	Connect to AC Power
2	EUT Power Cable, Unshielded	No	1.8	Connect to AC Power
3	DVD Player Power, Unshielded	No	1.8	Connect to AC Power
4	PC Input Cable, Unshielded	Yes	1.5	Between EUT and PC
5	Video Input Cable, Unshielded	No	1.5	Between EUT and DVD
6	DTV/DVD Input (Y,Pb(Cb), Pr(Cr)) Cables, Unshielded	No	1.5	Between EUT and DVD
7	PC Audio Cables, Unshielded	No	1.5	Between EUT and DVD
8	PS/2 Mouse Cable, Shielded	No	1.8	Connect to PC
9	Keyboard Cable, Shielded	No	1.5	Connect to PC
10	RS-232C Input Cable, Shielded	No	1.5	Connect to EUT
11	Video/S-Video Audio Cables, Unshielded	No	1.5	Connect to EUT
12	DTV/DVD Audio Cable, Unshielded	No	1.5	Connect to EUT

n/a = not available

1.4 Test Software

☐ Pinging

☒ Name / Manufacturer / Version / Type of pattern

- EMC Test / Compaq Computer / 1.0 / Scrolling 'H'

1.5 EUT Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

☒ Test program (H-Pattern)
☐ Test program (color bar)
☐ Standby
☐ Test program (customer specific)
☐ Practice operation
☒ Resolution/ Refresh Rate - 1024 x768 / 85Hz

1.6 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

1.7 Test Facility

The measurement facility is located at 386-1, Ho-Dong, Yongin-City, Kyungki-Do, Korea 449-100. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

1.8 Measurement Procedure

Preliminary AC power line conducted emissions tests were performed shielded room. To find worst mode, several typical mode and typical cable position were tested.
Final AC power line conducted emissions test was performed shielded room. (location is same as Preliminary test)
Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

Preliminary radiated emissions test were performed anechoic chamber (Distance of antenna and EUT was 3 m). To find worst mode, several typical mode and typical cable position were tested and peak level and frequency were recorded.

Final radiated emissions test was performed Open Area Test Site. Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

* Measurement procedures was In accordance with ANSI C63.4-1992 7.2.3, 7.2.4, 8.3.1.1, 8.3.1.2

1.9 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 and 10 meter Open Area Test Sites to perform FCC Part 15/18 measurements.	93250
JAPAN	**VCCI**	10 meter Open Area Test Site and one conducted site.	R-948, C-986
KOREA	**MIC**	EMI (CE, RE) EMS (ESD, Burst, RS, Surge, CS, Power-Frequency Susceptibility, Voltage Dips and Short Interruptions)	No. 51, KR0025
International	**KOLAS**	EMC	
Europe	**GLAS**	EMC EN 55011, EN 55022, EN 55024, EN 61326, EN 50130-4, EN 50081-1, EN 50081-2, EN 50082-1, EN 50082-2, EN 61000-6-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 61000-3-2, EN 61000-3-3	No.13000796-02

2.0 Emissions Test Regulations

The emissions tests were performed according to following regulations:

☐ EN 50081-1:1992

☐ EN 55011:1998 +A1:1999 ☐ Group 1 ☐ Group 2
☐ Class A ☐ Class B

☐ EN 55013:1990 +A12:1994 +A13:1996 +A14:1999
☐ EN 55013:2001

☐ EN 55014-1:1993 +A1:1997 +A2:1999 ☐ Household appliances and similar
☐ Portable tools
☐ Semiconductor devices

☐ EN 55014-1:2000
☐ EN 55014-2:1997

☐ EN 55015:1996 +A1:1997 +A2:1999
☐ EN 55015:2000

☐ EN 55020:1994 +A11:1996 +A13:1999 +A14:1999
☐ EN 55020:1994 +A11:1996 +A12:1999 +A13:1999 +A14:1999

☐ EN 55022:1994 +A1:1995 +A2:1997 ☐ Class A ☐ Class B
☐ EN 55022:1998 +A1:2000 ☐ Class A ☐ Class B

☐ EN 61000-3-2:1995 +A1:1998 +A2:1998
☐ EN 61000-3-2:1995 +A1:1998 +A2:1998 +A14:2000
☐ EN 61000-3-2:2000
☐ EN 61000-3-3:1995

☐ VCCI V-3/99.05 : 1999 ☐ Class A ☐ Class B

☐ FCC Part 15 SUBPART B ☐ Class A ☐ Class B

☐ AS 3548 (1992) ☐ Class A ☐ Class B

☒ CISPR 22 (1993) ☐ Class A ☒ Class B
The unit was tested to CISPR 22 and complied with the alternate methods allowed by FCC under paragraphs 15.107 and 15.109.

2.1 Conducted Voltage Emissions

Test Date
August 16, 2002

Test Location
EMI-CE: Shielded Room

Test Instruments

☒ Field Strength Meter	Rohde & Schwarz	ESHS30	828144/002

Test Accessories

☐ LISN	EMCO	3825/2	9206-1971
☒ LISN	EMCO	3825/2	9409-2246
☒ LISN	EMCO	3825/2	9607-2574
☒ Control PC	HP	Vectra 500	SG72000192

Frequency Range of Measurement
☒ 150 kHz to 30 MHz
☐ 450 kHz to 30 MHz
☐ _____

Instrument Settings
IF Band Width: 9 kHz

Test Results
The requirements are:

☒ MET minimum margin is 5.7 dBuV at 10.90 MHz
☐ NOT MET limit exceeded by maximum of ___ dBuV at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.2 Radiated Electric Field Emissions

Test Date
August 16, 2002

Test Location
☒ EMI-OATS: Testing was performed at a test distance of 10 m
☐ EMI-OATS: Testing was performed at a test distance of 3 m

Test Instruments

☒ Field Strength Meter	Rohde & Schwarz	ESVS30	826638/008

Test Accessories

☒ ULTRA Broadband Antenna	Rohde & Schwarz	HL562	361324/014
☐ Biconical Antenna	Schwarzbeck	BBA9106	41-00201
☐ Biconical Antenna	EMCO	3110B	9607-2564
☐ Log-periodic Antenna	EMCO	3146	9607-4567

Frequency Range of Measurement
30 MHz to 1 GHz

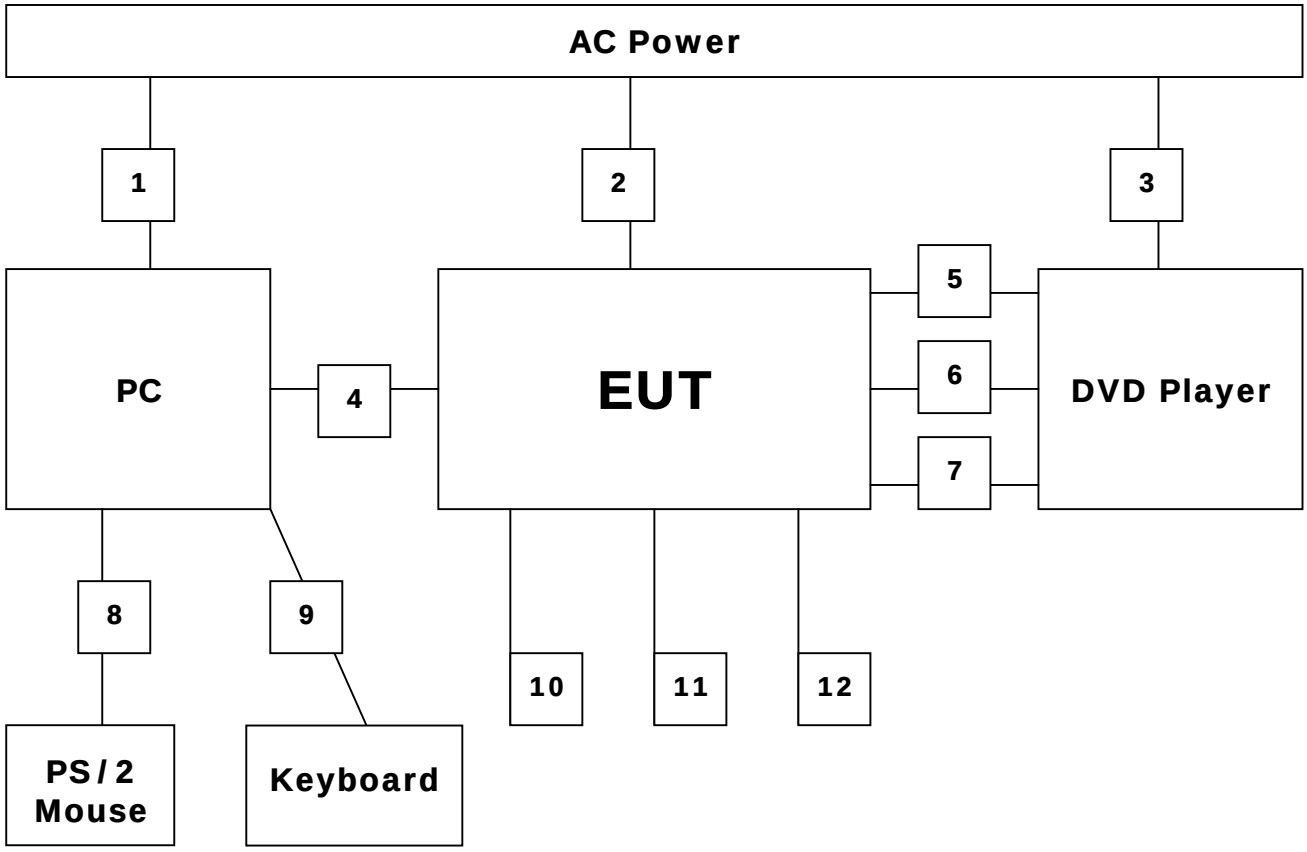
Instrument Settings
IF Band Width: 120 kHz

Test Results
The requirements are:

☒ MET minimum margin is 3.0 dB (uV/m) at 64.24 MHz
☐ NOT MET limit exceeded by maximum of ___ dB(uV/m) at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data

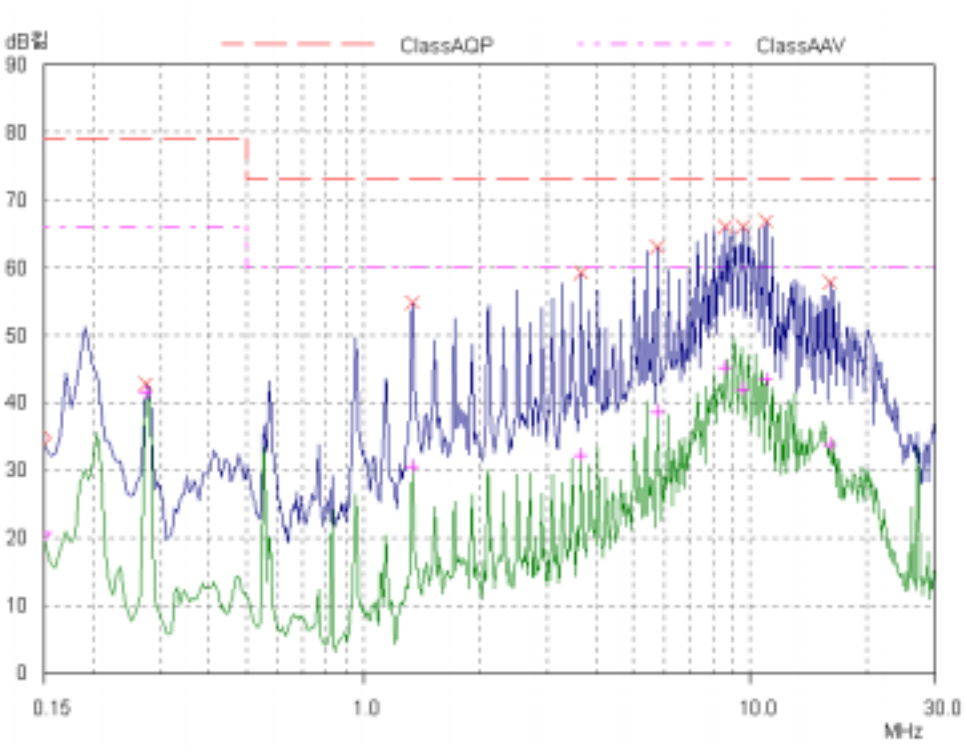
Configuration

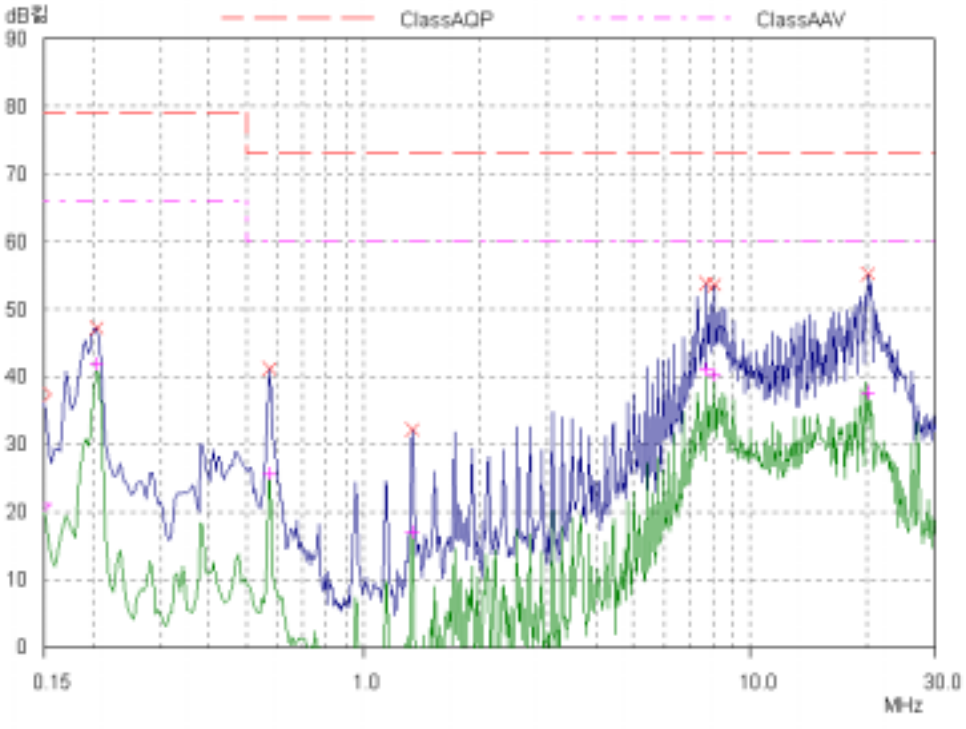


APPENDIX A – TEST DATA

Conducted Voltage Emissions (Quasi-Peak reading)

Frequency	Correction Factor		Line	Quasi-peak				Average			
				Limit	Reading	Result	Margin	Limit	Reading	Result	Margin
[MHz]	LISN	Cable		[dBuV]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dB]
0.21	1.2	0.1	N	79.0	47.3	48.6	30.4	66.0	41.8	43.1	22.9
0.58	0.2	0.1	N	73.0	41.2	41.5	31.5	60.0	25.5	25.8	34.2
1.34	0.2	0.1	L	73.0	54.8	55.1	17.9	60.0	30.5	30.8	29.2
3.64	0.3	0.1	L	73.0	59.3	59.7	13.4	60.0	32.3	32.7	27.4
5.74	0.3	0.1	L	73.0	63.0	63.4	9.6	60.0	38.6	39.0	21.0
7.65	0.2	0.2	N	73.0	53.8	54.2	18.8	60.0	41.0	41.4	18.6
8.03	0.2	0.2	N	73.0	53.7	54.1	18.9	60.0	40.2	40.6	19.4
8.61	0.3	0.1	L	73.0	66.0	66.4	6.6	60.0	45.2	45.6	14.4
9.56	0.3	0.2	L	73.0	66.0	66.5	6.6	60.0	42.0	42.5	17.5
10.90	0.2	0.2	L	73.0	66.9	67.3	5.7	60.0	43.5	43.9	16.1
16.06	0.2	0.2	L	73.0	57.8	58.2	14.8	60.0	33.9	34.3	25.7
20.08	0.5	0.3	N	73.0	55.3	56.1	16.9	60.0	37.5	38.3	21.7





Radiated Electric Field Emissions (Quasi-Peak reading)

Frequency [MHz]	Reading [dBuV/m]	Pol.	Height [m]	Correction Factor		Limits [dBuV/m]	Result [dBuV/m]	Margin [dB]
				Antenna	Cable			
63.03	29.8	V	2.2	4.1	1.5	39.1	35.4	3.7
64.24	29.7	V	1.6	4.9	1.5	39.1	36.1	3.0
64.85	29.5	V	1.6	4.9	1.5	39.1	35.9	3.2
65.45	29.4	V	1.6	4.9	1.5	39.1	35.8	3.3
69.70	26.6	V	1.7	6.7	1.6	39.1	34.9	4.2
74.55	24.5	V	1.5	7.7	1.8	39.1	34.0	5.1
321.12	26.2	V	1.2	11.6	3.8	46.4	41.6	4.9
330.28	26.5	V	1.0	11.9	3.7	46.4	42.1	4.4
337.49	21.7	H	2.6	12.2	3.9	46.4	37.8	8.6
661.28	19.2	V	1.0	18.3	5.5	46.4	43.0	3.4
682.76	14.2	V	1.1	18.1	5.5	46.4	37.8	8.6
937.85	9.9	V	1.5	21.0	6.8	46.4	37.7	8.7